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user terminal.

ATSK Reference No.: 017.38083x00 Nokia Reference No.: 28154

CLAIMS

We Claim:

1. A method of receiving information from a content provider and transmitting the information to a user terminal, comprising:

receiving information from the content provider;

displaying at least a portion of the information on the user terminal;

monitoring the information from the content provider to determine if any of the portion of the information being displayed on the user terminal has changed;

updating the information from the content provider that has changed; and transmitting the information from the content provider that has changed to the

2. The method recited in claim 1, wherein the information comprises a plurality of real-time data values from the content provider.

- 1 3. The method recited in claim 2, wherein the updating of information from
- 2 the content provider further comprises:
- 3 accessing a hash table containing a plurality of prior real-time data values
- 4 using a plurality of keys associated with the plurality of real-time data values;

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the position indicated.

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determining whether the plurality of real-time data values received from 5 content provider has changed from the prior plurality of real-time data values 6 contained in the hash table; and 7 updating the prior plurality real-time data values contained in the hash table 8 with the plurality of real-time values received from the content provider when the 9 plurality of real-time data values received from content provider has changed from 10 the plurality of prior real-time data values contained in the hash table. 11 The method recited in claim 3, wherein the transmitting of the plurality 4. of real-time data values that have been updated in the hash table to the user 3 terminal further comprises: activating a data thread when a real-time data value of the plurality of prior 4 real-time data values is updated in the hash table: 5 determining the position on a screen in the user terminal corresponding to the 6 real-time data value; 7 transmitting the real-time data value to the user terminal; and 8

5. The method recited in claim 4, wherein the data thread is activated using remote method invocation.

displaying the time real-time data value on the screen in the user terminal in

1	6. The method recited in claim 3, further comprising:
2	requesting a connection by the user terminal;
3	spawning a data server thread;
4	retrieving a user defined portfolio by the data thread containing a plurality of
5	keys;
6	generating activated HTML page containing an embedded applet and
7	downloading to the user terminal; and
8	monitoring the plurality of keys contained in the user defined portfolio and
9	identifying currently active keys of said of the plurality of keys.
1	7. The method recited in claim 6, comprising:
2	reading the currently active keys;
3	determining if the currently active keys have changed;
4	updating the hash table with the real-time data values for currently active
5	keys; and
6	downloading real-time values for the currently active keys that have changed
7	from the hash table to the user terminal.
1	8. The method recited in claim 7, comprising:
2	determining whether a shutdown request was made; and
3	disconnecting all connections to the user terminal when the shutdown request
4/	was made.

1	9. The method recited in claim 8, comprising:
2	retrieving the plurality of real-time data values on a periodic basis.
1	10. The method recited in claim 9, comprising:
2 /	notifying data server thread when a real-time data value of the plurality of data
3	that values has changed.
1	11. The method recited and claim 6, comprising:
2	activating an embedded applet received from the data server thread in the
3	user terminal;
4	determining whether a page changed is required;
5 -	informing to the data server thread of a plurality of new active keys;
6	receiving the plurality of real-time data values from the data server thread; and
7	updating the screen on the user terminal associated with each time data value
8	of the plurality of real-time data values.
1	12. A computer program executable by computer and embodied on
2	computer readable medium for receiving a plurality of real-time data values from
3	content provider and transmitting the real-time data values to a user termina
4	comprising:
5	a user terminal code segment to receive real-time data values; and
6	a real-time data server code segment to receive real-time data values from
7	a content provider, determine if the real-time data values have changed from prior

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- 8 real-time and transmit the real-time data values to the user terminal when the
- 9 real-time data values have changed from the prior real-time data values.
- 1 / 13. The computer program recited in claim 12, wherein the real-time data server code segment further comprises:
- a hash table storing the prior real-time data values and being updated when the real-time data values from the content provider have changed from the prior real -time data values.
- 1 14. The computer program recited in claim 13, wherein the real-time data server further comprises:
 - a web engine server module code segment to access a database having a portfolio generated by a user and generate an HTML page and applet, wherein upon receipt of a connection request from the user terminal the web engine server module code segment downloads the HTML page and applet to the user terminal code segment.
 - **15.** The computer program recited in claim 13, wherein the real-time data server further comprises:
- a source filter server module code segment to receive real-time data values
 from a content provider and determine if the real-time data values have changed
 from prior real-time data values stored and table, and activate a data thread code

6	segment when the real-time data values have changed from prior real-time data
7	values.
1	16. The computer program recited in claim 15, wherein the real-time data
2	server further comprises:
3	a real time data server module code segment to communicate between the
4	user terminal code segment and the source filter server module code segment
5	through the data server thread code segment.
1	17. The computer program regited in claim 16, where and source filter
2	server module further comprises:
3	a source filter module code segment to receive the real-time data values from
4	the values content provider; and update the hash table.
1	18. The computer program recited in claim 13, wherein the user terminal
2	further comprises:
3	a HTML page and JavaScript module code segment to display a screen on
4	the user terminal code segment; and
5	an embedded applet code segment to update the screen for the user terminal
6	code segment when the time data values are received from the real-time data server.
1	19. The computer program recited in claim 13, wherein the web engine
2	server/module further comprises:

comprises:

3	a web server module code segment to communicate to the user terminal code
4	segment and retrieve a portfolio specified by the user terminal code segment from
5	a database; and
6	a pagination engine module code segment, in communication with the web
7	server module code segment, to create the HTML page and applet code segment
8	based on the portfolio selected and the size of the screen on a user terminal.
1	20. A system to receive a plurality of real-time data values from a content
2	provider and transmitting the real-time data values to a user terminal, comprising:
3	a user terminal to receive real-time data values; and
4	a real-time data server to receive real-time data values from a content
5	provider, determine if the real-time data values have changed from prior real-time
6	data values and transmit the real-time data values to the user terminal when the
7	real-time data values have changed from the prior real-time data values.
1 _{\(\lambda\)}	21. The system recited in claim 20, wherein the real-time data server
	further comprises:
3	a hash table storing the prior real-time data values and being updated when
4	the real-time data values from the content provider have changed from the prior real
5	-time data values.
1	22. The system recited in claim 21, wherein the real-time data server further

further comprises:

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3	a web engine server module to access a database having a portfolio
4	generated by a user and generate an HTML page and applet, wherein upon receipt
5	of a connection request from the user terminal the web engine server module
6	downloads the HTML page and applet to the user terminal.
1	23. The system recited in claim 21, wherein the real-time data server further
2	comprises:
3	a source filter server module to receive real-time data values from the content
4	provider and determine if the real-time data values have changed from prior real-time
5	data values stored and table, and activate a data thread when the real-time data
6	values have changed from prior real-time data values.
1	24. The system recited in claim 23, wherein the real-time data server further
2	comprises:
3	a real time data server module to communicate between the user terminal and
4	the source filter server module through the data server thread.
1	25 The system recited in claim 24 where and source filter server module

a source filter module to receive the real-time data values from the values content provider; and update hash table.

, ¹ \	26. The system recited in claim 21, wherein the user terminal further
220	comprises:
3	a HTML page Java scripts to display a screen on the user terminal and; and
4	an embedded applet to update the screen on the terminal when the time data
5	values are received from the real-time data server.
1	27. The computer program recited in claim 22, wherein the web engine
2	server module further comprises:
3	a web server module to communicate to the user terminal and retrieve a
4	portfolio specified by the user terminal from a database; and
5	a pagination engine module, in communication with the web server module,
6	to create the HTML page and applet based on the portfolio selected and the size of
7	the screen on the user terminal.